

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Soil Mechanics		Code 1010101131010100637
Field of study Civil Engineering First-cycle Studies	Profile of study (general academic, practical) (brak)	Year /Semester 2 / 3
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 15 Classes: - Laboratory: 30 Project/seminars: -		No. of credits 5
Status of the course in the study program (Basic, major, other) (brak)		(university-wide, from another field) (brak)
Education areas and fields of science and art technical sciences		ECTS distribution (number and %) 5 100%
Responsible for subject / lecturer: dr Michalina Flieger-Szymańska email: michalina.flieger-szymanska@put.poznan.pl tel. 616652136 Faculty of Civil and Environmental Engineering ul. Piotrowo 5 60-965 Poznań		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	The full range of knowledge in mathematics and physics included in the program of high school. The full range of knowledge included in the first and second semester of civil engineering studies.
2	Skills	Student: - can perform static analysis of bar structures statically determinate; - can correctly select the tools to solve problems of analysis and design building objects; - knows how to dimension the basic structural elements in buildings.
3	Social competencies	Student: - can work individually and together as a team over the designated task; - is responsible for the accuracy of the results of their work and its interpretation; - individually complements and extends the knowledge in modern techniques, processes and technologies.
Assumptions and objectives of the course: Achieving the basic level of knowledge in soil mechanics, proper for I degree studies of civil engineering.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. Student is acquainted with construction law, national norms and EN standards and technical conditions of a building construction - [K_W06]		
2. Knows the geology base and has a knowledge of soil mechanics - [K_W08]		
3. Knows the rules of construction and analysis of residential, industrial, road, railroad and bridge constructions - [K_W09]		
Skills:		
1. Can evaluate and list a loads acting on building structures - [K_U02]		
2. Can appropriately define calculation models used for the structure analysis - [K_U03]		
3. Can carry out simple laboratory experiments in order to evaluate the quality of construction materials and engineering structures - [K_U13]		
Social competencies:		

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| 1. Can work on a problem individually and in a team - [K_K01]
2. Is aware of own health and fitness - [K_K04]
3. Is aware of the necessity to advance professional and personal competencies - [K_K06] |
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Assessment methods of study outcomes

- written exam (30 points available, 17 points required to pass the exam)
- written and oral tests as part of continuous assessment
- execution of the development of containing of interpreting results laboratory tests characteristics of subsoil
- execution of the development of containing the results of calculations of stress in the subsoil

Course description

- introduction to geotechnics
- genesis of the soil
- geotechnical characteristics of the soil
- classification of ground in according to with the content of PN and PN-EN
- physical characteristics of the soil
- water in a subsoil
- strength of the soil
- compressibility and consolidation of the soil
- geostatic stresses in the subsoil
- stress from external loads in the subsoil
- bearing capacity of the subsoil

Lectures are conducted using the information lecture method. Laboratory exercises are conducted using the laboratory and practice methods.

Basic bibliography:

1. Witun Z.: Zarys geotechniki, Warszawa, WKiŁ 2012
2. Pisarczyk St.: Gruntozawstwo inżynierskie, Warszawa, PWN 2001
3. Szymański A.: Mechanika Gruntów, SGGW, Warszawa 2007

Additional bibliography:

1. Jeż J.: Biogeotechnika, Poznań, Wyd. PP 2008
2. Motak E.: Fundamenty bezpośrednio, Warszawa, Arkady 1988
3. Obrycki M., Pisarczyk St.: Zbiór zadań z mechaniki gruntów, Warszawa, PW 2007

Result of average student's workload

Activity	Time (working hours)	
1. participation in classes and individual work	150	
Student's workload		
Source of workload	hours	ECTS
Total workload	150	5
Contact hours	90	3
Practical activities	60	2